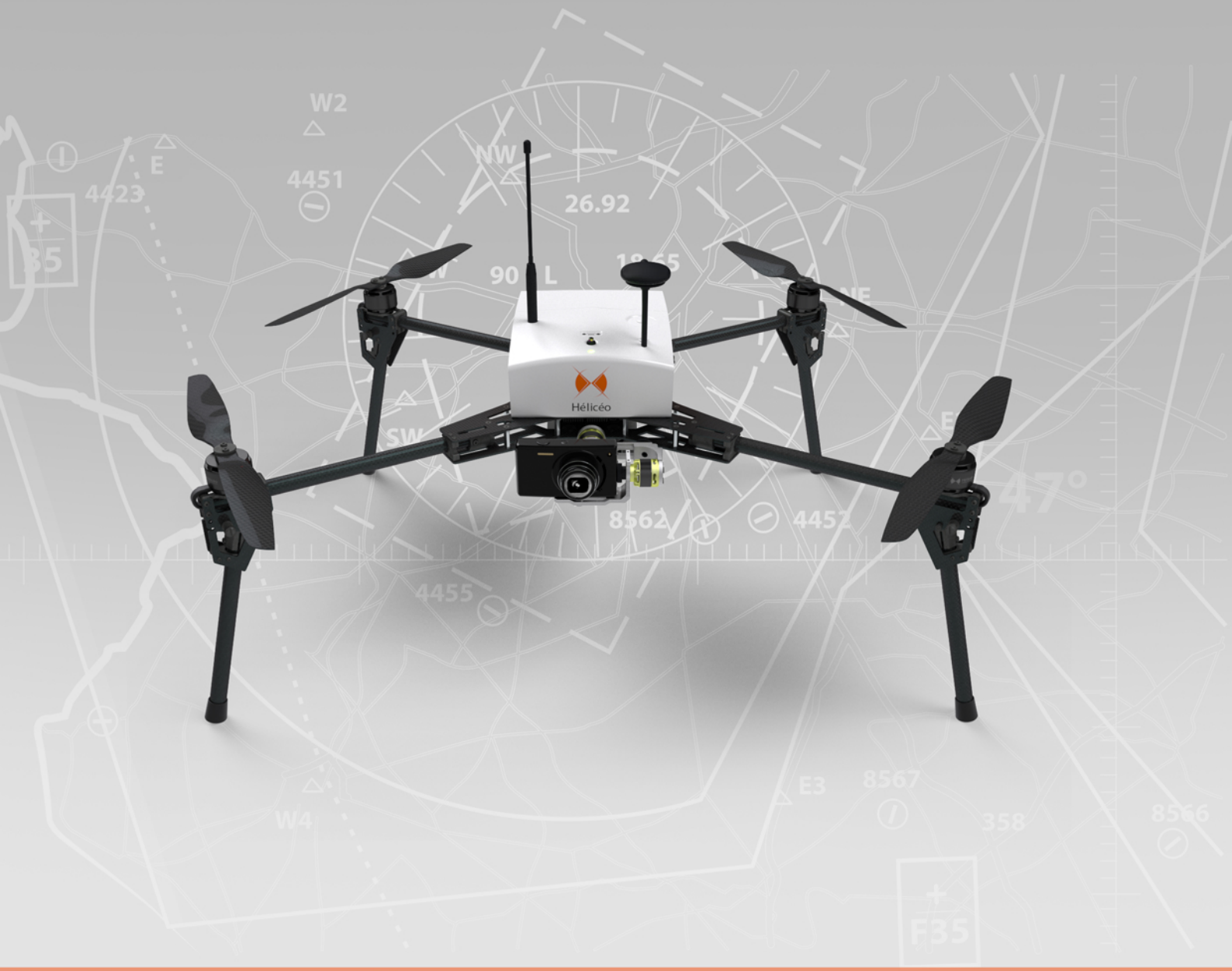
Datasheet

Fox4

The lightweight easy-to-use Multirotor for affordable professional imagery

Fox4 is the lightweight multirotor drone with 4 carbon blades. Its light structure and engine allows for extreme maneuverability and ease of use with manual or automatic piloting. Designed for photogrammetry missions up to 20 ha, Fox4 may also carry out missions for inspection of infrastructure, structures, network lines or industrial sites.



Lightweight & easy-to-use

- Less than 5kg with casing
- Less than 3 minutes setting up
- Full automatic take-off, landing and navigation
- Wind resistant 50km/h

Professional imagery

- Centimeter grade GSD imagery resolution
- Direct Georeferencing RTK/PPK feature (DroneBox RTK)
- RGB and thermal camera options

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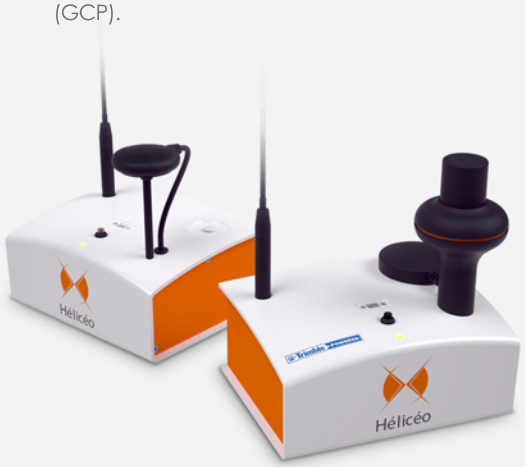
Fox 4

Powered by DroneBox

DroneBox incorporates the navigation function with GNSS and inertial sensors, the communication modules hosting the powerful firmware for all critical functions such as sensors and communication management, as well as data logging.

DroneBox is the "plug & play" precision navigation and measurement device usable across the Heliceo product range. Moving a single DroneBox around allows to optimize the investment performing data acquisition with multiple vehicles and sensors.

DroneBox comes in 2 options i.e DroneBox Slim for meter positioning accuracy and DroneBox RTK for centimeter GNSS positioning allowing direct georeferencing without need for ground control points (GCP).



Features	DroneBox Slim	DroneBox RTK
Hardware		
◦ Material	Composite & ABS	Composite & ABS
◦ Dimensions	130 x 170 x 270 (mm)	130 x 170 x 270 (mm)
◦ Weight	0,550 Kg	0,667 Kg
◦ Temperature range	-10 °C to +60°C	-10 °C to +60°C
Navigation		
◦ Satellites	Single band L1 GPS Navigation	Dual band L1/L2 GPS/Glonass
◦ RTK	No	Yes
◦ PPK	No	Yes
◦ Precision	1 to 3 m	0,03 m X-Y; 0,05 m Z
◦ IMU	MEMS 3D Attitude 1 °	MEMS 3D Attitude 1 °
Firmware		
◦ Flight management	Autopiloting, navigation, flight plan change, ..	Autopiloting, navigation, flight plan change, ..
◦ Communication management	GNSS board, camera, inertial components, time synchronization and others.	Positions, photos, time, inertial data and others.
◦ Data logging	On-board autopilot, Telemetry, GNSS, ..	On-board autopilot, Telemetry, GNSS, ...

Features

Key features

- **High precision local photogrammetry**
- **Centimeter grade GSD imagery resolution**
- **Very short set-up time, less than 3 minutes**

Operation

Type	Multirotor / 4 carbon blades
Setting up and start	Less than 3 minutes
Take-off & landing	Full Automatic (or manual)
Flight management	Full Automatic (or manual)
Endurance	Up to 25 minutes (1)
Cruise speed	30 km/h (18 mph)
Maximum speed	50km/h (31 mph)
Maximum climb/sink rate	Up to 3m/s (1)
Flight height (typical)	30 m to 150 m / Above ground level (AGL)
Maximum altitude	2000 m (6 560 ft)
Radio link range	Up to 2 km (1.25 mi)
Crossing distance	Up to 10 km (6.2 mi)
Wind resistance	50km/h (31 mph)
Temperature range	- 10 °C to +45°C

Hardware & Communication

Material	Carbon structure, Aluminium gimbal, Composite DroneBox
Dimensions	0,860m x 1,050m x 0,530m
Motors	4 brushless motors
Weight	
◦ Without payload	4.0kg
◦ Max Take-off (MTOW)	5.0kg
◦ Max Payload	0.3kg
Gimbal	Frontal Gyroscope controlled 2 axis
Batteries	Lithium - 2 x 5000 mAh
Parachute (option)	Mechanical (2s) or Pyrotechnic (1.5s)
Radios	
◦ Remote control	2.4 GHz and others (please ask)
◦ Telemetry	433-868-933 Mhz and others (please ask)
Mission modes	Manual ; Stabilize ; Auto ; Loiter ; Alt Hold ; RTL

Data collection & Software

Payloads	Canon Ixus 160 20 Mpxl, and others (please ask)
Typical scanning area	Up to 20 ha (49 acres)
Software	
◦ Mission Planning	HASK - Planner
◦ GNSS Processing	HASK - Geoprocessor
◦ Image processing (option)	Pix4DMapper Pro or MicMac or others
Output data	Image files, log data Densified cloud 3D data *(LAS, LAZ, PLY, XYZ)* 3D textured mesh *(FBX, OBJ, DXF, PLY, 3D PDF)* Orthophotos *(GEOTIFF)*, Digital Terrain Model DSM & DTM *(XYZ, LAS, LAZ)* Contour lines *(SHP, PDF, DXF)*

(1) Weather and playload dependant

(2) Flight 150m AGL

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